Subject: Re: Segmentation Violation when simulating events with run_sim1.C
Posted by Marius Mertens on Thu, 05 Feb 2009 15:37:26 GMT

Hi Stefano, thanks a lot for your input, I did some more tests throughout the day...

Stefano Spataro wrote on Thu, 05 February 2009 09:59First suspect point:

...

In your system you do not have openGL and/or motiv libraries. Then your geant4 was not compiled with them and it has not created libG4OpenGL. I think (and hope) this should not affect the analysis.
To solve this, you should install opengl/motif in your computer, than rebuild (first you have to clean it) geant4 and g4vmc.

Unfortunately, I cannot do this independently on my PC. I brought up this issue with our administrator, so he will have to help us there.

Stefano Spataro wrote on Thu, 05 February 2009 09:59Second suspect point:

...

This has to be investigated. I think this is not safe.

I (think that I) have fixed this locally now. Unfortunately, the symptoms are still the same

Stefano Spataro wrote on Thu, 05 February 2009 09:59Third suspect point:

...

You have "particular" geant4 configurations, "QGSP_BERT_EMV" physics lists and options "stepLimiter+specialCuts+specialControls". Do you really need them? They could be sources of errors.
You could try the standard and tested one in your gconfig/g4Config.C, "QGSP" (or "emStandard" to not use hadronic processes) as physics list, and no options after (no step limiter and so on).

This one puzzles me a bit. I'm not aware of having set anything special. How can I make sure that only the configuration you mentioned applies and nothing else will interfere with it?

Stefano Spataro wrote on Thu, 05 February 2009 09:59Another test could be done by using geant3, to understand if it is related only to g4 code or even to g3.

Unfortunately, even with removing the testparams.root before each run, also a Geant3 based simulation crashes after some 100 events.

Toggle Spoiler
```
 **** GTRIGI: IEVENT=    140 IDEVT=    140 Random Seeds =      4357         0
CbmMCApplication::GeneratePrimaries()
outerVal, midVal, innerVal: 14 20 1
phi, cosTheta, p: 14 0 1
-I CbmPrimaryGenerator: 1 primary tracks from vertex (0, 0, 0)Event Time = 0(ns)
 **** GTRIGI: IEVENT=    141 IDEVT=    141 Random Seeds =      4357         0
```

CbmMCApplication::GeneratePrimaries()
outerVal, midVal, innerVal: 14.1 20 1
phi, cosTheta, p: 14.1 0 1
-I CbmPrimaryGenerator: 1 primary tracks from vertex (0, 0, 0)Event Time = 0(ns)
 **** GTRIGI: IEVENT=   142 IDEVT=   142 Random Seeds =   4357   0
CbmMCApplication::GeneratePrimaries()
outerVal, midVal, innerVal: 14.2 20 1
phi, cosTheta, p: 14.2 0 1
-I CbmPrimaryGenerator: 1 primary tracks from vertex (0, 0, 0)Event Time = 0(ns)

 *** Break *** segmentation violation
Using host libthread_db library "/lib/libthread_db.so.1".
Attaching to program: /proc/22305/exe, process 22305
[Thread debugging using libthread_db enabled]
[New Thread -1227610416 (LWP 22305)]
0xb7fc0410 in __kernel_vsyscall ()
#1 0xb6e025c3 in __waitpid_nocancel () from /lib/libc.so.6
#2 0xb6dacd3b in do_system () from /lib/libc.so.6
#3 0xb6eb251d in system () from /lib/libpthread.so.0
#4 0xb7a8124d in TUnixSystem::Exec () from
/usr/local/panda/fairroot/fairsoft/tools/root_v5.20.00/lib/libCore.so.5. 20
#5 0xb7a86717 in TUnixSystem::StackTrace ()
   from /usr/local/panda/fairroot/fairsoft/tools/root_v5.20.00/lib/libCore.so.5. 20
#6 0xb7a8571e in TUnixSystem::DispatchSignals ()
   from /usr/local/panda/fairroot/fairsoft/tools/root_v5.20.00/lib/libCore.so.5. 20
#7 0xb7a857ed in SigHandler () from
/usr/local/panda/fairroot/fairsoft/tools/root_v5.20.00/lib/libCore.so.5. 20
#8 0xb7a7e734 in sighandler () from
/usr/local/panda/fairroot/fairsoft/tools/root_v5.20.00/lib/libCore.so.5. 20
#9 <signal handler called>
#10 0xb68d0b3f in TGeoNavigator::CdDown () from
/usr/local/panda/fairroot/fairsoft/tools/root_v5.20.00/lib/libGeom.so
#11 0xb68d2ccb in TGeoNavigator::SearchNode ()
   from /usr/local/panda/fairroot/fairsoft/tools/root_v5.20.00/lib/libGeom.so
#12 0xb68d28ec in TGeoNavigator::SearchNode ()
   from /usr/local/panda/fairroot/fairsoft/tools/root_v5.20.00/lib/libGeom.so
#13 0xb68d2f6c in TGeoNavigator::FindNode () from
/usr/local/panda/fairroot/fairsoft/tools/root_v5.20.00/lib/libGeom.so
#14 0xb68b6778 in TGeoManager::FindNode () from
/usr/local/panda/fairroot/fairsoft/tools/root_v5.20.00/lib/libGeom.so
#15 0xb0fb5c8f in gtmediTGeo () from
/home/mertens/pandaroot/transport/geant3/lib/tgt_linux/libgeant321.so
#16 0xb0fa7a67 in gtmedi_ () from
/home/mertens/pandaroot/transport/geant3/lib/tgt_linux/libgeant321.so
#17 0xb0e22da9 in g3track_ () from
/home/mertens/pandaroot/transport/geant3/lib/tgt_linux/libgeant321.so
#18 0xb0fb9377 in gutrak_ () from
/home/mertens/pandaroot/transport/geant3/lib/tgt_linux/libgeant321.so
#19 0xb0e23bd8 in gtreveroot_ () from
/home/mertens/pandaroot/transport/geant3/lib/tgt_linux/libgeant321.so
#20 0xb0fb9347 in gutrev_ () from
/home/mertens/pandaroot/transport/geant3/lib/tgt_linux/libgeant321.so

#21 0xb0f9e13b in jumpt0_ () from
/home/mertens/pandaroot/transport/geant3/lib/tgt_linux/libgeant321.so
#22 0xb0cf2dd0 in g3trig_ () from
/home/mertens/pandaroot/transport/geant3/lib/tgt_linux/libgeant321.so
#23 0xb0fab457 in TGeant3::Gtrig () from
/home/mertens/pandaroot/transport/geant3/lib/tgt_linux/libgeant321.so
#24 0xb0fa79fb in TGeant3::ProcessEvent () from
/home/mertens/pandaroot/transport/geant3/lib/tgt_linux/libgeant321.so
#25 0xb0fac74c in TGeant3::ProcessRun () from
/home/mertens/pandaroot/transport/geant3/lib/tgt_linux/libgeant321.so
#26 0xb428a639 in CbmMCApplication::RunMC (this=0x8746590, nofEvents=3600)
   at /home/mertens/pandaroot/pandaroot/trunk/base/CbmMCApplication.cxx:228
#27 0xb429e7c1 in CbmRunSim::Run (this=0x86b9a18, NStart=3600, NStop=0)
   at /home/mertens/pandaroot/pandaroot/trunk/base/CbmRunSim.cxx:286
#28 0xb42e0b50 in G__CbmDict_531_0_5 (result7=0xbfcde740, funcname=0x86b7260 "\001",
libp=0xbfcd82d4, hash=0)
   at /home/mertens/pandaroot/cbuild/base/CbmDict.cxx:9272
#29 0xb71c074a in Cint::G__ExceptionWrapper ()
   from /usr/local/panda/fairroot/fairsoft/tools/root_v5.20.00/lib/libCint.so.5. 20
#30 0xb727ccf8 in G__execute_call () from
/usr/local/panda/fairroot/fairsoft/tools/root_v5.20.00/lib/libCint.so.5. 20
#31 0xb727dd4d in G__call_cppfunc () from
/usr/local/panda/fairroot/fairsoft/tools/root_v5.20.00/lib/libCint.so.5. 20
#32 0xb7255de7 in G__interpret_func () from
/usr/local/panda/fairroot/fairsoft/tools/root_v5.20.00/lib/libCint.so.5. 20
#33 0xb7244dd3 in G__getfunction () from
/usr/local/panda/fairroot/fairsoft/tools/root_v5.20.00/lib/libCint.so.5. 20
#34 0xb7331c22 in G__getstructmem () from
/usr/local/panda/fairroot/fairsoft/tools/root_v5.20.00/lib/libCint.so.5. 20
#35 0xb7327a80 in G__getvariable () from
/usr/local/panda/fairroot/fairsoft/tools/root_v5.20.00/lib/libCint.so.5. 20
#36 0xb7217751 in G__getitem () from
/usr/local/panda/fairroot/fairsoft/tools/root_v5.20.00/lib/libCint.so.5. 20
#37 0xb721edf2 in G__getexpr () from
/usr/local/panda/fairroot/fairsoft/tools/root_v5.20.00/lib/libCint.so.5. 20
#38 0xb72afe9d in G__exec_statement () from
/usr/local/panda/fairroot/fairsoft/tools/root_v5.20.00/lib/libCint.so.5. 20
#39 0xb7257d9c in G__interpret_func () from
/usr/local/panda/fairroot/fairsoft/tools/root_v5.20.00/lib/libCint.so.5. 20
#40 0xb7244e36 in G__getfunction () from
/usr/local/panda/fairroot/fairsoft/tools/root_v5.20.00/lib/libCint.so.5. 20
#41 0xb7217841 in G__getitem () from
/usr/local/panda/fairroot/fairsoft/tools/root_v5.20.00/lib/libCint.so.5. 20
#42 0xb721edf2 in G__getexpr () from
/usr/local/panda/fairroot/fairsoft/tools/root_v5.20.00/lib/libCint.so.5. 20
#43 0xb722b600 in G__calc_internal () from
/usr/local/panda/fairroot/fairsoft/tools/root_v5.20.00/lib/libCint.so.5. 20
#44 0xb72b8f8a in G__process_cmd () from
/usr/local/panda/fairroot/fairsoft/tools/root_v5.20.00/lib/libCint.so.5. 20
#45 0xb7a73d65 in TCint::ProcessLine () from
/usr/local/panda/fairroot/fairsoft/tools/root_v5.20.00/lib/libCore.so.5. 20
#46 0xb7a73a1f in TCint::ProcessLineSynch ()

from /usr/local/panda/fairroot/fairsoft/tools/root_v5.20.00/lib/libCore.so.5. 20
#47 0xb79a88e8 in TApplication::ExecuteFile ()
   from /usr/local/panda/fairroot/fairsoft/tools/root_v5.20.00/lib/libCore.so.5. 20
#48 0xb79a8c24 in TApplication::ProcessFile ()
   from /usr/local/panda/fairroot/fairsoft/tools/root_v5.20.00/lib/libCore.so.5. 20
#49 0xb79a5d6b in TApplication::ProcessLine ()
   from /usr/local/panda/fairroot/fairsoft/tools/root_v5.20.00/lib/libCore.so.5. 20
#50 0xb700e2b9 in TRint::Run () from
/usr/local/panda/fairroot/fairsoft/tools/root_v5.20.00/lib/libRint.so.5. 20
#51 0x08048e23 in main ()

Stefano Spataro wrote on Thu, 05 February 2009 09:59
In each case, maybe the error could be related to vmc options that were never tested (at least
they were never tested by us with our code). Let's try

Alright, I won't be on site until Monday, but then I'll be ready for running some more tests

Marius